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ABSTRACT

This publication provides standards and guidelines addressing a variety of issues in the area of library automation in Texas. In addition to the core elements of a library automated system (public access catalog, cataloging, circulation, acquisitions, and serials), remote access, imaging, and full-text document management are included. This document provides guidance for librarians in Texas in evaluating library technology. The standards address only a limited number of topics, and are not sufficient by themselves for developing a comprehensive set of specifications. The standards and guidelines are divided into six categories: (1) Applicability; (2) Planning; (3) Bibliographic Record Creation; (4) Machine-Readable Records; (5) The Bibliographic Database; and (6) The System. (Author/SWC)

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LIBRARY AUTOMATION

STANDARDS and GUIDELINES

(Revised, May 1995)

Texas State Library
Library Development Division
Box 12927
Austin, Texas 78711

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LIBRARY AUTOMATION STANDARDS AND GUIDELINES

(Revised, May 1995)

The following standards and guidelines address a variety of issues in the area of library automation. In addition to the core elements of a library automated system (public access catalog, cataloging, circulation, acquisitions, and serials), remote access, imaging, and full-text document management are included. Several of the latter items are recommended guidelines rather than required standards. It is the intention of this document to provide guidance for librarians in Texas in evaluating library technology. Because these standards address only a limited number of topics, they are not sufficient by themselves for developing a comprehensive set of specifications.

Use of the word "shall" means that the standard is required for funding purposes (see Standard 1.2); use of the word "recommended" means that the standard is desirable, but not required.

1.0 APPLICABILITY

1.1 All Texas libraries are encouraged to adhere to these standards voluntarily.

1.2 Library automation projects receiving state or federal grant funds from the Texas State Library shall adhere to these standards, except as provided for in 1.2.1.

1.2.1 Libraries may request exemption from a particular standard by submitting written justification with the grant application. State Library staff will evaluate the request and recommend whether the exemption should be allowed if the project is funded. Exemptions are appropriate for such applications as word processing, desktop publishing, spreadsheets, and the purchase of CD-ROM or online databases.

1.3 Consulting and continuing education services from the Texas State Library will promote these standards.

2.0 PLANNING

2.1 All library automation projects shall have a project implementation plan. It is recommended that a long range automation plan, preferably as part of the organizational long range plan, also be in place. For information on creating a long plan for automation, please refer to the Texas State Library manual *Long Range Planning for Automation.*

2.2 As applicable, it is recommended that project implementation plans include, but not be limited to:

Planning

- Needs, goals, objectives, tasks, and benefits
- Projected collection growth
- Projected service area growth
- Number of titles represented by machine-readable records
- Project administration and staffing
- Capital and operating costs
- Upgrade and expansion plans
- Timeline
- Budget

Implementation

- Retrospective conversion
- Hardware
- Software
- Training of patrons and staff
- Telecommunications
- Site preparation

Maintenance

- Hardware support
- Software support
- Network support

2.3 In addition to the considerations in Standard 2.2, it is recommended that project implementation plans involving more than one library include:

- An evaluation of collection sizes, strengths, and overlaps
- Cost allocation methods
- Governance structure of the project
- Process for withdrawal from project

2.4 It is recommended that libraries have a disaster preparedness plan in place.

3.0 BIBLIOGRAPHIC RECORD CREATION

(This standard discusses the intellectual content of the record.)

3.1 It is the goal of these standards that access points for bibliographic records conform to the latest edition of the *Anglo-American Cataloguing Rules* (AACR), and that descriptive cataloging for bibliographic records conform to the latest edition of AACR, whenever possible, or to a previous national cataloging standard.

3.1.1 Except as provided for in 3.1.2, the standard for original cataloging for bibliographic records shall be the *Anglo-American Cataloguing Rules* (AACR2), Second Edition, 1988 Revision, including current amendments. The minimum level for original descriptive cataloging shall be

the combination of AACR2, Level I, plus series statement and "National-Level Record and Minimal-Level Record Requirements," Appendix A of *USMARC Format for Bibliographic Data*. It is recommended that AACR2, Level II, be used for all original descriptive cataloging. Libraries are encouraged to enhance this standard with the Library of Congress Rule Interpretations and with adopted Machine-Readable Bibliographic Information (MARBI) proposals.

3.1.2 For archival materials, it is recommended that bibliographic records conform to the rules provided in *Archives, Personal Papers, and Manuscripts*, 2nd or current edition.

3.1.3 Bibliographic records that do not meet current or previous national cataloging standards shall be upgraded to the latest edition of AACR. The minimum level of descriptive cataloging shall be the combination of AACR2, Level I, plus series statement and "National-Level Record and Minimal-Level Record Requirements," Appendix A of *USMARC Format for Bibliographic Data*. It is also recommended that headings in records created under previous cataloging standards be upgraded to the latest edition of AACR.

3.1.4 Abbreviated bibliographic records are acceptable for materials of a transitory nature, that are on-order, in-process, awaiting full cataloging, or have a short shelf life.

3.1.5 It is recommended that bibliographic records for monographs added through retrospective conversion projects meet the Association of Research Libraries' *Guidelines for Retrospective Conversion of Bibliographic Records for Monographs*, adopted November 1985.

3.2 Subject headings shall be assigned from any controlled vocabulary subject heading system/thesaurus provided for in *USMARC Format for Bibliographic Data* (6XX Subjects Access, second indicator), for example: *Library of Congress Subject Headings* (LCSH), *Library of Congress Subject Headings for Children's Literature*, National Library of Medicine's *Medical Subject Headings* (MeSH), *National Agricultural Library Subject Headings*.

3.2.1 It is recommended that libraries use *Library of Congress Subject Headings* or *Library of Congress Subject Headings for Children's Literature*, latest edition, if appropriate. *Sears Subject Headings* is not recommended.

3.3 Holdings information shall be kept current.

3.4 It is recommended that authority control be practiced according to the criteria found in Standard 5.2.

3.5 Local cataloging decisions shall be documented.

4.0 MACHINE-READABLE RECORDS

(This standard discusses the structure of the bibliographic record during conversion, import and export.)

4.1 The standard for bibliographic records shall be (National Information Standards Organization (NISO) Z39.2 (Bibliographic Information Interchange).

4.2 The specific implementation of NISO Z39.2 shall be *USMARC Format for Bibliographic Data*, current edition, or other nationally recognized variations of MARC, for example, OCLC/MARC, RLIN/MARC, or MicroLIF/USMARC (1991 or latest version).

4.3 The bibliographic records shall contain, if available, one or more of the following numeric identifiers: LCCN, ISBN, ISSN, system control number, Standard Technical Report Number, Government Printing Office stock number, Superintendent of Documents Number, and Music Publisher Number. The identifier(s) shall accurately reflect the bibliographic item held by the library.

4.4 The standard for holdings statements shall be the *USMARC Format for Holdings Data*, current edition.

4.5 The standard for authority records shall be the *USMARC Format for Authority Data*, current edition.

4.6 The standard for community information records shall be the *USMARC Format for Community Information Data*, current edition.

4.7 Local encoding decisions shall be documented.

5.0 THE BIBLIOGRAPHIC DATABASE

5.1 Bibliographic Records

5.1.1 All records entering the database shall follow the standards found in "Bibliographic Record Creation" (Standard 3.0), and "Machine-readable Records" (Standard 4.0).

5.1.2 A database used as a local catalog shall include all cataloged holdings, except as provided for in Standard 5.1.3. Automation projects unable to meet this standard by the end of the grant period may apply for an exemption by supplying a statement of intent to comply with this objective and a reasonable schedule indicating when the objective will be achieved.

5.1.3 Libraries merging records into a union catalog may define the scope of the database. For example, a group of libraries may wish to include only audiovisual, genealogy or technical document records in their union catalog.

5.1.4 The database shall be maintained to ensure that individual bibliographic records accurately reflect the collection. It is recommended that additions and deletions to the collection and changes in holdings and locations be recorded within three (3) months. It is also recommended that off-line products include additions, deletions and changes current as of three (3) months prior to generation.

5.2 Authority Control

5.2.1 It is recommended that the Library of Congress Name, Subject, and Series Authority files be applied to all records entering the database. The control may be automated or manual. Other authority files may supplement the Library of Congress Authority files.

5.2.2 Subject headings shall be under authority control appropriate to the controlled vocabulary used, e.g., MeSH shall not be used for authority control if the subject headings used are LCSH.

6.0 THE SYSTEM

6.1 General

6.1.1 The system shall contain the functions of database creation and maintenance, and either a circulation module or a public access catalog module. It is recommended that libraries install multi-purpose integrated, online systems, including circulation, public access catalog, cataloging, serials and acquisitions subsystems.

6.1.2 A shared system shall provide individual policy and parameter files for each member. Examples of such policies include loan periods, fines, patron groups, and calendars.

6.1.3 Standards 6.5 (The Catalog), 6.6 (Circulation), 6.7 (Remote Access), 6.8 (Optical Media), and 6.9 (Full-Text Document Management) apply only to systems using these components or having these features.

6.1.4 The system shall generate management reports and patron notices, such as overdue and fine notices.

6.1.5 It is recommended that libraries have a back-up system (either automated or manual) in place.

6.1.6 It is recommended that libraries create policies and procedures for use of the automated system.

6.2 Standards

6.2.1 If a local area network (LAN) is implemented, implementation of the latest version of one of the IEEE 802.XX standards is recommended.

6.2.2 Depending on the functions purchased, all library automation projects shall adhere to current Z39 NISO standards.

6.2.3 It is recommended that libraries purchase systems that support an open systems environment.

6.3 Machine-readable Database

6.3.1 The communications format for importing and exporting records shall be *USMARC Format for Bibliographic Data*, including *USMARC Specifications for Record Structure, Character Sets, Tapes*, or a nationally recognized variation such as OCLC/MARC, RLIN/MARC, or MicroLIF/USMARC (1991 or current version).

6.3.2 It is recommended that vendors demonstrate their adherence to the *USMARC Format for Bibliographic Data* by having the data integrity of their system's USMARC import and export processes verified through the Library of Congress MARC Diagnostic Service.

6.3.3 The system shall import, store and export the data elements defined in "National-Level Record and Minimal-Level Record Requirements," Appendix A of *USMARC Format for Bibliographic Data*. It is recommended that all data elements from the USMARC record be stored to preserve future options.

6.3.4 The system shall be able to import and export records either by magnetic tape, floppy disk, or electronic transfer.

6.3.5 Exported records shall be the current version of the record after all updates have been made.

6.3.6 Changes in USMARC formats shall be implemented by the library within 18 months of implementation by the vendor.

6.3.7 Import, export, and storage of USMARC records need not take place on-site if cataloging or database maintenance services are contracted to another library, consortium, or vendor, as long as the other provisions of Standard 6.3 are met.

6.4 Workstations

6.4.1 Workstations shall support the full ASCII character set. Adherence to NISO Z39.47 (Extended Latin Alphabet Coded Character Set for Bibliographic Use) is recommended.

6.4.2 Provision shall be made to suppress non-displaying USMARC characters.

6.4.3 It is recommended that personal computers be used as workstations.

6.4.4 If the project will provide multimedia capabilities, the workstations which will provide the multimedia shall conform at least to the functional requirements of the latest revision of the MPC (Multimedia Personal Computer) requirements, currently Level 2.

6.5 The Catalog

6.5.1 The bibliographic database shall be searchable by personal and corporate authors, titles, series, subjects, local call number, LCCN, and ISBN/ISSN. It is recommended that the database also be searchable by system control number, Standard Technical Report Number, Government Printing Office stock number, Superintendent of Documents Number, and Music Publisher Number.

6.5.2 The system shall provide Boolean, keyword and browsing searches.

6.5.3 It is recommended that the system be able to limit searches by the language, publication date, format and, for multi-library systems, by location.

6.5.4 It is recommended that the system adhere to NISO Z39.58 (*Common Command Language for Online Interactive Information Retrieval*).

6.5.5 The catalog shall display location, call number, and except for projects in which circulation functions will not be provided, circulation status of holdings.

6.5.6 It is recommended that "see" and "see also" cross references be included in all catalogs. It is recommended that blind cross-references not be apparent to the user.

6.6 Circulation

6.6.1 Adequate security for patron and circulation files shall be applied. Personal patron data and current circulation activity shall be restricted to authorized individuals, in accordance with state laws.

6.6.2 The system shall not maintain patron/item linkages beyond those needed for current circulation, fine assessment or resolution, or those needed under very specialized circumstances, for example: control of rare and valuable materials, and service to patrons with special needs.

6.6.3 Patron records shall be maintained to ensure that the database accurately reflects the patron base. It is recommended that additions and deletions to the patron database be recorded within one (1) month.

6.6.4 The circulation system shall show location, call number, and availability of individual items.

6.6.5 A unique identification number shall be assigned to each patron record and to each item in the system. It is recommended that the number be structured to uniquely identify the local library.

6.6.6 It is recommended that systems use Code 39 or CODABAR barcode label formats.

6.6.7 It is recommended that 14 digit barcode labels be used with the following format:

Digit 1	"2" for a patron; "3" for an item
Digits 2-5	Registered unique 4-digit number identifying the library
Digits 6-13	Consecutive number
Digit 14	Check digit

6.7 Remote Access

6.7.1 For terminal access, the system shall support one or more common terminal emulators, such as VT100, VT52, or ANSI.

6.7.2 Asynchronous telecommunications shall be supported at line speeds of 9600 baud or higher. Line speed of 9600 baud shall be in compliance with Consultative Committee for International Telephony and Telegraphy (CCITT) V.32 or V.42. Data compression for 9600 baud shall be in compliance with CCITT V.42bis.

6.7.3 The library shall publicize the availability of remote access. Information needed by a patron to gain access shall be made available according to local policy.

6.7.4 It is recommended that libraries provide remote access through the latest release of NISO Z39.50 (Information Retrieval Service Definition and Protocol) clients and servers.

6.7.5 It is recommended that libraries allow other Texas libraries and individuals on the Internet the ability to search their library's automated bibliographic catalog(s).

6.8 Optical Media

(For more detailed information on microfilming, please refer to "Microfilming Standards and Procedures," Local Government Bulletin Number One, published by the Texas State Library, State and Local Records Management Division.)

(For more detailed information on imaging, please refer to "Electronic Records Standards and Procedures," Local Government Bulletin Number Two, published by the Texas State Library, State and Local Records Management Division.)

6.8.1 Microfilming shall be done in accordance with the specifications in American National Standard for Imaging Media (Film) -- Silver-Gelatin Type -- Specifications for Stability (ANSI IT9.1-1989 or latest revision).

6.8.2 CD-ROM projects shall comply with the "High Sierra" or ISO 9660 standard.

6.8.3 As applicable, projects utilizing compact discs shall adhere to the following standards:

Compact Disc-Digital Audio (CD-DA)	Red Book
Compact Disc-Interactive (CD-I)	Green Book
Compact Disc-Read Only Memory (CD-ROM)	Yellow Book
Compact Disc-Recordable (CD-WO)	Orange Book

6.8.4 It is recommended that a non-proprietary image file header label be used, or a bridge be provided to a non-proprietary image file header label, or a detailed definition of the image file header label be supplied.

6.8.5 The system hardware and/or software shall provide a quality assurance capability that verifies information that is written to the optical media.

6.8.6 Scanner quality shall be evaluated based on the standard procedures in Recommended Practice for Quality Control of Image Scanners (ANSI/AIIM MS44-1988 or latest revision).

6.8.7 The scanning density shall be a minimum of 300 dots per inch.

6.8.8 It is recommended that CCITT Group 3 or Group 4 compression techniques be used for document images without continuous tonal qualities. If use of a proprietary compression technique is unavoidable, a gateway shall be provided to either Group 3 or Group 4 compression techniques.

6.9 Full-text Document Management

6.9.1 It is recommended that full-text documents have the capability to be transferred to either ASCII (American Standard Code for Information Interchange) or SGML (Standard Generalized Mark-up Language -- ISO 8879).